

ABSTRACT OF THE DISCLOSURE

Organic light-emitting diodes (OLEDs) that produce white light include an anode, a hole-transporting layer disposed over the anode, a blue light-emitting layer disposed over the hole-transporting layer, an electron-transporting layer disposed over the blue light-emitting layer, and a cathode disposed over the electron-transporting layer. The hole-transporting layer is doped with both a yellow-emitting and a red-emitting dopant. When used together with red, green, and blue color filters, the OLEDs produce red, green, and blue light with good color quality and high efficiency. Also disclosed are multicolor display devices utilizing the OLEDs together with color filters or together with both color filters and liquid-crystal light valves.